

*Xenotrichula guadelupense* n. sp.,  
a new marine Gastrotrich from Guadeloupe

by Jacek KISIELEWSKI

**Résumé.** — Une nouvelle espèce de Gastrotriche (Chaetonotida, Xenotrichulidae) appartenant au groupe *Xenotrichula velox* est décrite des plages de sable volcanique de Basse-Terre (Guadeloupe).

**Abstract.** — A new species of Gastrotricha (Chaetonotida, Xenotrichulidae) from the *Xenotrichula velox* — species group is described from volcanic sandy beaches of Basse-Terre (Guadeloupe).

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Several specimens of a new species of the genus *Xenotrichula* Remane, 1927, were collected together with other gastrotrich and meiofaunal material by RENAUD-MORNANT and GOURBAULT during a 1979 collecting trip to Guadeloupe, made possible by "Mission Muséum-Antilles" grants.

Description of sampling sites and localities, and ecological data are given in RENAUD-MORNANT and GOURBAULT (1981).

*Xenotrichula guadelupense* n. sp.

(Fig. 1-3)

**MATERIAL :** Nine mature individuals were collected from Basse-Terre, 6 specimens including holotype and 5 paratypes from Rocroy beach (16°03' N-61°45,4' W), other specimens from Grande Anse du Sud (15°57,8' N-61°40' W). MNHN Paris registration numbers : AT 12, AT 13 (Rocroy), AT 188 (Grande Anse du Sud). Holotype AT 13 deposited in MNHN Paris Collections, paratypes are kept in the author's collection.

**DIAGNOSIS :** *Xenotrichula*-species belonging to the *X. velox*-species group. Total body length 170-180 µm, pharynx length 46-49 µm, caudal appendages length 53-58 µm, adhesive tube length 17-21 µm. The pair of long head tentacles — 21-24 µm in length — covered with fine scales and with several short cilia on their tips. Length and thickness of ventral locomotor cirri considerably differentiated along the body. Dorsal and lateral surface of body covered with stalked scales arranged in 13 longitudinal alternating rows. The ventral surface of the trunk is covered with plates arranged in 8 longitudinal rows. 11 flat scales present on the inner margin of the basal part of the caudal appendages.

## DESCRIPTION

A pair of long tentacles is localized laterally on the head ; their ends bear several short cilia. Tentacle surface is covered with hardly noticeable scales which are likely rhomboid in shape. The scales are slightly more visible on the dorsal side and frontal margin of the tentacle. A hypostomium without anterior spines and a cephalion are present. Like in *X. velox* Remane, 1927, and *X. cornuta* Wilke, 1954, a pair of transversal rows of "kammartiger Zaeken" occurs lateral to the mouth. A pair of tufts of rather short bristles, about 9  $\mu\text{m}$  long, occurs on the frontal margin of the head ; each tuft contains at least three bristles. Two pairs of head sensory cirri are present ; the antero-dorsal one is 36  $\mu\text{m}$  long and the lateral one which originates near the tentacles basis, is 26  $\mu\text{m}$  long.

The head, neck and trunk are dorsally and laterally covered with stalked scales arranged in 13 longitudinal alternating rows (fig. 2). Lateral stalked trunk scales become considerably longer at the posterior part of the trunk (fig. 3). There are 8 longitudinal rows of plates on the ventral trunk side. Both of the inner rows include 17 plates and the outer ones, which extend along the whole body contain about 48 plates, including 18 localized on the pharynx region.

Basal parts represent 2/3 of the total length of the caudal appendages. Both of them are covered with four longitudinal rows of flat scales. All rows include 12 such scales except for the inner one where only 11 scales are present.

Ventral locomotor cirri vary in shape and size along the body. A few short and thin cirri — 5-6  $\mu\text{m}$  long and to 1  $\mu\text{m}$  thick at their basis — occur at the frontal end of both pharyngeal bands. Successive cirri became larger and larger, and they reach 11-14  $\mu\text{m}$  and 2,5-3  $\mu\text{m}$  respectively on the mid-pharynx region. The rearmost cirri of the pharyngeal band are of the same length, or even slightly longer and considerably thinner than the mid-pharynx ones. Thin and moderate in length cirri — 10-11  $\mu\text{m}$  and less than 1  $\mu\text{m}$  respectively — occur in separate tufts on the mid-trunk region. Both of the tufts likely comprise four cirri.

The anatomy of this gastrotrich has not been fully-analysed. Typical oocytes and thread-like sperm occurred in all adult individuals examined.

*Dimensions* : Total body length 170-180  $\mu\text{m}$  ( $n = 3$ ) ; pharynx length 46-49  $\mu\text{m}$  ( $n = 4$ , mean value 48.0) ; mouth diameter 6  $\mu\text{m}$  ( $n = 2$ ) ; tentacle length 21-24  $\mu\text{m}$  ( $n = 3$ ) ; caudal appendages length 53 ; 58  $\mu\text{m}$  ( $n = 2$ ) ; adhesive tube length 17-21  $\mu\text{m}$  ( $n = 7$ , mean value 18.6).

## DISCUSSION

*Xenotrichula guadelupense* n. sp. should be classified into the *X. velox*-species group, according to criteria indicated by RUPPERT (1979). The group included hitherto the following species : *X. velox* Remane, 1927, *X. cornuta* Wilke, 1954, and *X. tentaculatus* Chandrasekhara Rao and Ganapati, 1968.

*X. guadelupense* n. sp. is smaller than each of the remaining species, as well as the number of longitudinal rows of dorsal stalked scales is lower. Moreover, the newly-described species differs from *X. velox* and *X. tentaculatus* in having considerably differentiated in size and shape ventral cirri (unknown in *X. cornuta*). Head tentacles of *X. guadelu-*

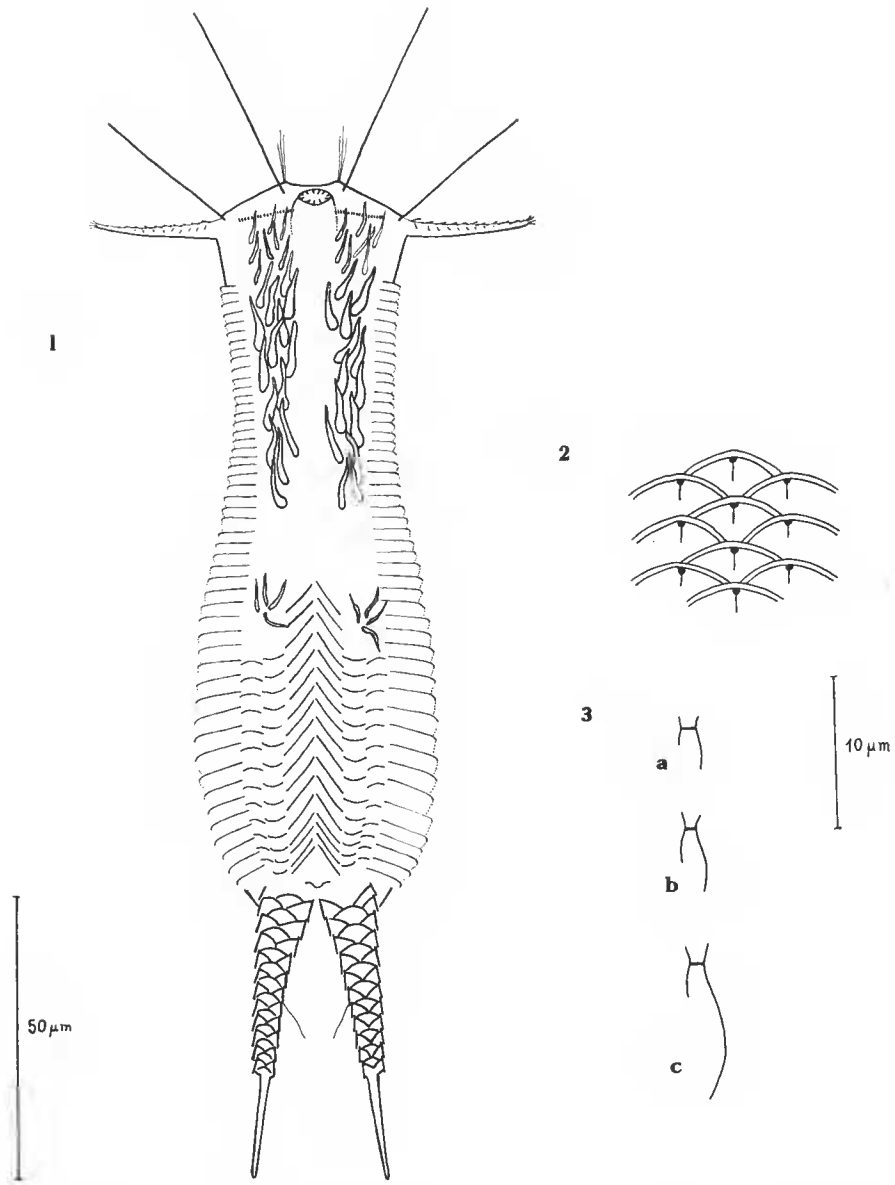


FIG. 1-3. — *Xenotrichula guadelupense* n. sp. : 1, whole animal, ventral view ; 2, dorsal stalked scales from the mid-trunk region, dorsal view ; 3, lateral stalked scales from neck (a), mid-trunk region (b) and posterior part of trunk (c), dorsal view.

*pense* n. sp. are, in relation to body size, larger than in *X. velox* and *X. cornuta*, but somewhat smaller than in *X. tentaculatus*; in addition, their ends bear cilia, unlike the case of *X. velox*. A covering of *X. guadelupense* tentacles with small scales resembles *X. cornuta*, however, this character seems to be common within the *X. velox*-species group, as I also observed fine scales on the tentacles of *X. velox* (unpublished data). Another character common within this species group is likely covering pattern of ventral body side, however, no appropriate details are known for *X. tentaculatus*.

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